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13. ABSTRACT *(Maximum 200 words)*

Funds in the amount of $124,000 were awarded for the purchase of visual simulation equipment.

EQUIPMENT PURCHASED
1. 600SN Vector Display System

2. IRIS 4D Workstation

3. Electro Holme Video Projectors (2)

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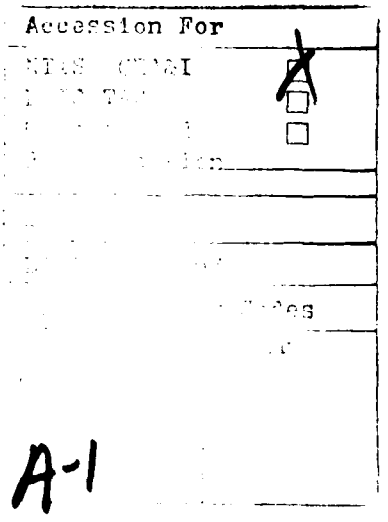
Visual Simulation Laboratory

by

George Andersen and Gavan Lintern

Final Technical Report



1. Introduction

Funds in the amount of $124,000 were awarded for the purchase of visual simulation equipment.

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2. Equipment Purchased

Equipment	Supplier	DOD Grant	Cost-Sharing	Total
1. 600SN Vector Display System	IMI, Inc.	74,966.06	20,033.94	95,000.00
2. IRIS 4D Workstation	Silicon Graphics	24,317.94	14,320.36	38,638.30
3. Electro Holme Video Projectors (2)	Video Midwest	24,716.00		24,716.00
Totals		124,000.00	34,354.30	158,354.30

The items purchased with this grant are being integrated with a Frasca simulator cockpit which has flight dynamics resident in a DEC personal computer. Two Evans and Sutherland SPX image generators are to be integrated with this system and the Electro Holme projectors will be used to project the visual images they generate. The IRIS 4D and the IMI 600SN will serve as alternate workstations that will be driven by the flight simulator. This configuration of equipment will allow the exploration of a wide range of behavioral issues that are relevant to flight simulation.

3. Research Projects in Progress

3.1 Perceptual learning in the acquisition of flight skills, October 1986 to September 1991.

PI: Gavan Lintern

For: Army Research Institute, Contract #MDA 903-86-C-0169

3.2 Perceptual recognition of land features, and electronic maps in airborne navigation, October 1989 to September 1992.

PI: Christopher D. Wickens

For: NASA Ames Research Center, Contract #NASA NAG 2-308

4. Proposals

4.1 Acquisition of skill for highly stressed performance. Proposal to J. Wesley Regian, Brooks AFB, TX

This work will examine skill acquisition on a complex computer-based laboratory task, with special emphasis on the instructional strategies for teaching skills that will not be disrupted by high stress environments.

4.2 Visual simulation for flight training. Proposal to the FAA in response to Broad Agency Announcement 89-001

This research will seek to determine the levels of visual fidelity required for effective instruction of flight skills in a simulator.